Problem 5:

1. Change the “subject to Time” constraint to = avail[s]; This doesn’t change the results because all available hours were already being used.

Before:

Graphical user interface, text, application

Description automatically generated

After:

Graphical user interface, text

Description automatically generated

1. Create a max\_weight parameter and use it as an upper bound on the total tons made. We can no longer use all available time or we would exceed the weight limit.

Graphical user interface, text, application

Description automatically generated

1. We change the objective function to the sum of Make, without worrying about the profit. With this model we focus on producing as many bands as possible

Graphical user interface, text

Description automatically generated

1. Make a constraint where the desired share \* total (min amount for product) <= Make[p] (amount made). Changing the share params to .5, .5, .1 results in nothing made because the min shares total to 100% which is not possible.

Graphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generated

1. Add finish to our stages, rate param, and avail param. Plug in the given values for the plate production. Note a rate of 0 breaks our Time constraint (can’t divide by 0) so set rate param for bands and coils to infinity, they won’t be used as it would break market parameters.

Graphical user interface, text, application

Description automatically generated